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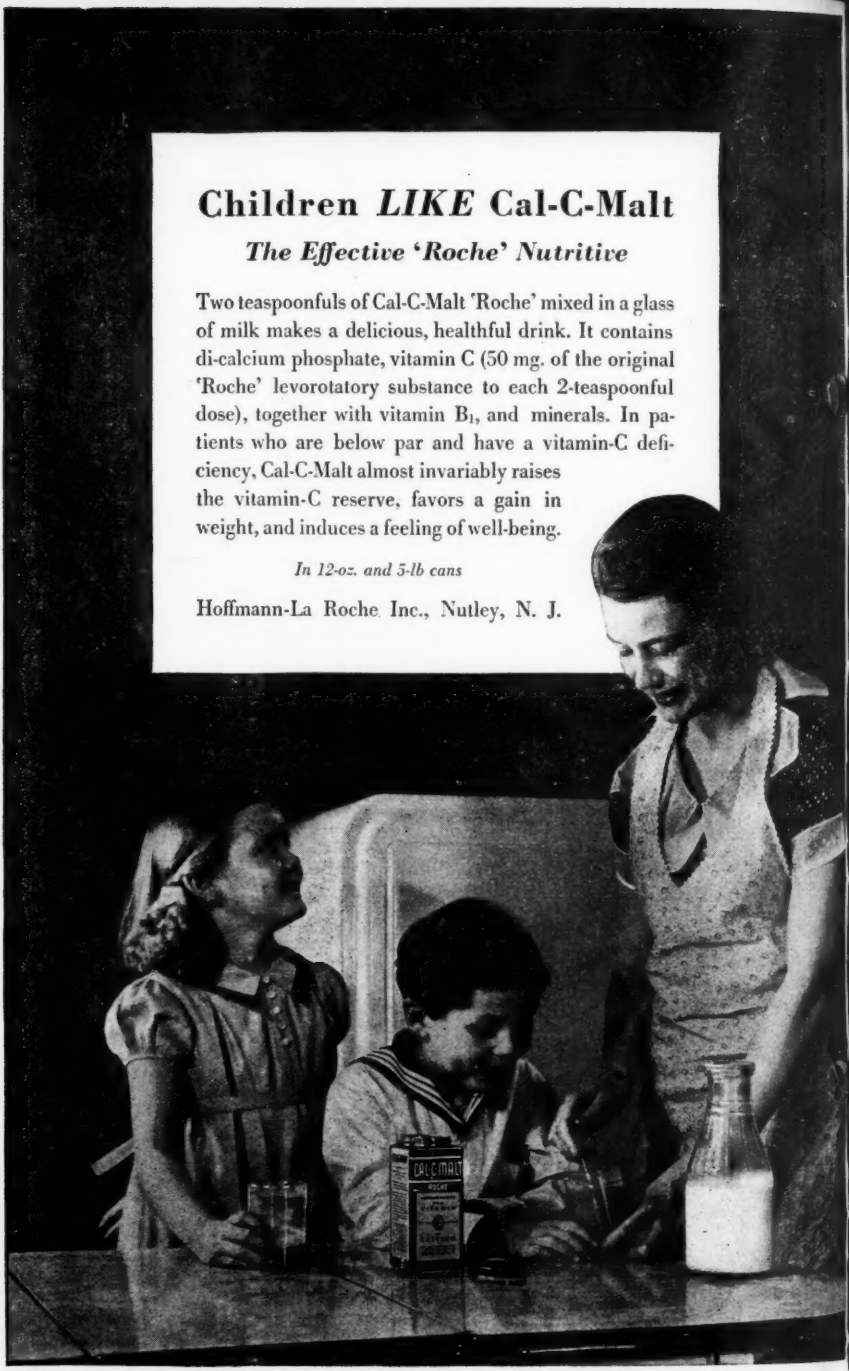
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THE JOURNAL OF SCHOOL HEALTH

Devoted to the interests and advancement of School Physicians and the service rendered by them. Your participation by membership is solicited.

Vol. VII NOVEMBER, 1937 No. 9

THE SCHOOL PHYSICIAN FROM A MEDICAL VIEWPOINT*

J. H. J. UPHAM, M. D., *President, American Medical Association*

The School Physician has established himself firmly as a recognized and essential part of the modern educational and general health program. As a professional activity this has developed considerably beyond the original idea. While scarcely as yet to be dignified as a specialty, it offers excellent opportunities for young practitioners to improve themselves professionally, if they appreciate fully those opportunities and are willing to assume the responsibilities now recognized as a part of the successful school physician's activity.

I have said "now recognized", perhaps I should say *should* be recognized jointly by educators, sociologists, health officials, the medical profession, and the school physician himself.

In modern education, the backward child is one of the major problems. In this, health impairments play an important part. The obvious impairments of eye-sight and learning need not be stressed. They are readily recognizable, and their early correction, where possible, may bring an apparently stupid backward child up to the average or even higher. The recognition of such predisposing conditions as infected tonsils as possible threats to middle ear infection and subsequent deafness is equally important. In many instances, the histories of frequent absences due to various illnesses, the noting of cases of mal-nutrition and various food deficiency conditions are all opportunities open to the school physician to contribute valuable service toward meeting this great educational problem. There are, however, greater possibilities involved than physical health, and education. The backward child develops often an inferiority complex with a distaste for school and education in general. Truancy is rife among this group, and the youthful truant quickly acquires an opposition to authority and control, a feeling of being forced to tasks beyond him, of being picked upon, and in general an anti-social state of mind that often leads to early crime. The study of the histories of the present youthful criminals have definitely established this connection of truancy and criminality.

Also, as a part of the general health of the community, the school physician plays an important part. The most obvious factor, of course, is the recognition of communicable diseases: not infrequently through ignorance, or reckless disregard of the danger to others, parents send their children to school with well marked eruptions, sore-throats suggestive of diphtheria and other communicable conditions. Many epidemics have been started in schools in this way. The local health department must rely upon the aid of the school

*Read at the Tenth Annual Meeting of the American Association of School Physicians, New York, October 3, 1937.

physician, and usually heartily cooperates with and supports his activities. In this field, as in the predisposing conditions already referred to, the preventive possibilities are exciting great attention at present, and in this area the relations of the school physician to the local medical profession constitute an important part of his activity. As an employee and important part of the school system, his first responsibility is to further the educational program by recognizing and recommending the correction of those health conditions which hold back students and retard their educational progress. Closely allied to this is the protection of the general group by recognizing the appearance of communicable diseases.

To succeed in these activities, he must have the cordial cooperation of the local medical profession and the health officials. Strictly speaking, his responsibility ends when he reports the conditions found to the parents and to the local board of health. In reality, however, to the really interested school physician, there is a further responsibility or at least a great opportunity for usefulness. Too frequently a mere formal report of physical impairments to the parents produces little results, especially when expense is involved. Oftentimes, a note to the family physician, drawing attention to the conditions found, helps. But many families have no regular physician, or sometimes physicians hesitate to insist upon the proper corrective measures because of the implication of seeking professional gains. The easy way out for the school physician, often impatient at the lack of attention paid his recommendations, is to refer the child to a free clinic.

Is this fair to the community or to the medical profession? I think not. If the parents are unable to pay for the needed medical services, that is another matter. The medical profession has always been ready to give its services freely to the really indigent. That this has been abused and has become an unfair burden is also true, and a very helpful augury for the future is the growing recognition of the community responsibility for the medical relief of the indigent. For those able to pay for medical services, however, it is manifestly unfair to the community, to the medical profession, and to the people themselves to suggest or furnish such services free. The pauperization of so many people in this way, and allowing them to shirk their family responsibilities, threaten the thrift, integrity, and self-dependence of our people as a whole.

The wholesale and indiscriminate immunization of school children is part of the same problem, and should be viewed in the same light. The future good of all concerned is the great desideratum, and this can be brought about only by the definite cooperation of parents and of the medical profession with the school physician.

A great opportunity is open to the last named, if he will avail himself of it. *First,* through his contacts with the children, he can stress their needs and the advantages they will receive from corrective measures. It is surprising at times how open children are to suggestions, and the pressure they can bring to bear

upon their parents. *Second,* through more extended information in the recommendations to the parents, he can stress the unfortunate possibilities from continued neglect. This may be greatly supplemented by the cooperation of the school nurse in visiting the home and by personal word adding force to the formal recommendation. At the same time, she may have the opportunity of ascertaining the social status, and learning whether the child should be referred to a free clinic. *Third,* an educational program through the Parent-Teachers Association. Here may be stressed the parents' responsibility not only for the health of their children but the effect of physical impairment in retarding their educational progress with the possibilities of causing truancy and the dangers therefrom.

Lastly, through establishing cordial relations with the local medical profession and thus securing its hearty cooperation. The medical profession is a very conservative body. It has seen so many widely praised panaceas rise and fall; cults offering bizarre methods of healing have come and gone. It has very definitely, however, the best interests of its clientele earnestly at heart. It welcomes new ideas, but must be convinced of their value. Through the local societies, the school physician has an opportunity to educate the medical profession in the need of cooperation in his program. This should be a great aid in carrying it out. With the assistance of properly understanding health officials, a general plan can be worked out for steady progress that would be much more beneficial in the long run, more stable and productive of results, than the spasmodic campaigns one hears about from time to time.

In conclusion, I would stress briefly the professional opportunities for self-improvement for the school physician, if he will recognize and appreciate them. Usually it is a part-time position and the possibilities are two fold. The conscientious young practitioner may recognize the chance for excellent training in the inspection and examination of a large number of children apparently in health; the recognition of definite impairments or the early stages of various ailments, the various reactions of children in general, representing a cross-section of the community, which should be of great value to him in his own practice.

Or, he may consider it purely as a poorly paid job and treat it accordingly. I remember the story of such a young man who in commenting on the fact that his salary was a certain amount and with the number of children he had to examine, he actually received five cents for each examination. On being asked what sort of service he could give for that, he replied "By heaven, I gave them five cents worth!" But little comment is necessary. Such a man was not even earning his salary, and was doing himself and his professional character grave damage by continuing in such service.

There is no question but that the position of school-physician is at present underpaid, but the possibilities for self-improvement professionally may well be considered as additional gain. Should they, as a group, enter whole-heartedly into the program I have endeavored to present, I believe proper recognition

will come in the near future. This would mean proper financial support, and the position might well develop into the dignity of a specialty of medical practice.

Whether the time is yet ripe for full time service is a matter for debate. Too often part-time service with poor pay encourages poor service and shirking responsibility. On the other hand, full time in such a position tends to institutionalize some practitioners, and the separation from private practice leads them away from the medical viewpoint.

The solution would seem to lie in intensive education, of all the parties concerned, in the importance of this field and the possibilities for good that may be accomplished through better understanding and cooperation. The justification of the position of school physician is established; the future lies largely in the way the members of this group meet their responsibilities and avail themselves of their opportunities.

* * * * *

Results of Tonsillectomy and Adenoidectomy.—To determine, if possible, what points in the history of the case and in the appearance of the throat are significant with reference to the clinical result obtained and to arrive at a more certain method of prognosis and more specific criteria for both prognosis and indications for tonsillectomy and adenoidectomy, Epstein observed 540 children between the ages of 2 and 13 years before, and at intervals for two years after, these surgical interventions. Histologic sections of the tonsils of 152 of these children were studied. Practically all these tonsils showed a greater or lesser degree of infection or connective tissue scars or both. Large tonsils were almost always infected. Tonsils that were cryptic usually contained more caseous material. Tonsils with much caseous material almost invariably had cryptic abscesses. Whether the tonsils were buried, cryptic, smooth, large, or small, bore no relation to the preoperative symptoms or to the degree of success of the operation. Excellent results were obtained with children of all ages in the relief of sore throat and of cervical adenitis, good results in the relief of mouth breathing, fairly good results in the relief of cough, and fair results in the relief of frequent head colds. Except in cases of tonsilitis or pharyngitis, the results for all complaints were only fair in children less than 6 years old. With the complaints of a cough and head colds the results were especially poor, particularly in children less than 4 years old. More consistently good results may be expected if the operation of tonsillectomy and adenoidectomy is postponed until the child is six years of age or older, especially if head colds or a cough is the complaint; except in the estimation of mechanical obstruction, the appearance of the tonsils in children is unimportant to the physician in arriving at a decision as to the advisability of the operation.—American Journal of Diseases of Children, Chicago, 53:1425-1660 (June) 1937. The Journal of the American Medical Association, August 7, 1937, page 462.

THE ROLE OF HEALTH EDUCATION IN A TUBERCULOSIS TESTING CAMPAIGN*

HAROLD D. CHOPE, M. D., M. P. H., *Health Commissioner, Newton, Massachusetts*

The demonstration of direct community benefits resulting from health education programs is not always easy; and the Health Officer working in a small community often finds it impossible to apply the health education techniques described by workers from larger communities. Such mediums as the radio, extensive newspaper publicity, and moving pictures are rarely available to the small city health worker. Those of you who heard Dr. Vaughn's description of the Detroit program yesterday, realize that it would be difficult for the average health officer to imitate.

It is the purpose of this short paper to demonstrate definite benefits resulting from a health education campaign, and to describe a technique so simple that the health officer or school physician working on the most limited budget can easily imitate or modify it to suit his own community.

Newton, Massachusetts, is located in Middlesex County and is a suburb of Boston. The population estimated as of July 1, 1937, is 72,034. Following a ten-year study by Doctor Chadwick, the Middlesex County Tuberculosis Sanatorium offered to the cities and in the county the services of the School Clinics. The plan of these clinics when first started in 1934-35 was to tuberculin test (using O. T. and the Von Pirquet test) those children of the seventh, ninth, and eleventh grades whose parents requested the service. All positive reactors were x-rayed, and all children showing positive x-ray signs were given a physical examination. All positive reactors with negative x-ray plates were referred to the follow-up clinics for re-examination in two years.

The first year that this procedure was followed in Newton, an announcement was made in the schools, a letter was written to the physicians of the city, and a routine letter and request slip was sent home to each of the families having children in the seventh, ninth, and eleventh grades. As a result 55% of the children in these grades were tested.

Preceding the 1935-36 testing program, an attempt was made to bring to the attention of the students and parents the reason for such a campaign. No daily newspaper is published in the city, and the several weekly papers printed have but a limited circulation. The radio was out of the question. So the educational program consisted of the following:

1. Using the silent moving picture "Men and Microbes" as a curtain raiser, the Health Officer gave a short talk on the reasons for the tuberculin testing program, the results of the preceding year's work, and the importance of the procedure to the students of the selected grades.

2. Posters were prepared and placed in the branch libraries, calling attention to available printed material discussing tuberculosis and its prevention.

*Read at the annual meeting of the American School Health Association, Oct. 7, 1937.

3. A certain number of contact visits were made by the public health nurses on parents of children whom the health and school departments were anxious to test.

As a result of this work, the number of children tested increased from 55% in 1934-35 to 65.6 in 1935-36. This represented a ten and six tenths percent increase as compared to only a 2% increase for the state as a whole and a 2.5% increase for the county of Middlesex where the testing was carried on by the same staff which served Newton.

An incident occurred in the 1936 campaign which gave the keynote to our 1937 work. The educational secretary of the State Tuberculosis Association asked if we would be willing to give a completion test, to either students or teachers, which was being developed for experimental purposes in connection with a health teaching unit. This simple completion test, consisting of eleven questions, was given to an unselected group of teachers working with children in the seventh and ninth grades, with the startling results that 50% of the teachers answered more than six questions incorrectly.

This brought forcibly to our attention the fact that we could expect little assistance from the teaching staff when they themselves had had no opportunity to become familiar with the program or the facts regarding tuberculosis.

The actual tuberculin testing of the children in Newton usually takes place during the last week of April and the first week of May. In preparing for the 1937 campaign, plans were laid early in January. The supervisor of the science curriculum in the Junior High Schools asked the teachers to hand in questions regarding tuberculosis which they would like to have answered. The type of question received (62 in number) further confirmed the opinion that the teachers themselves were in need of education regarding the fundamentals of tuberculosis control. 1. To answer this need (1) an answer to each question was written out, (2) all the available statistics regarding tuberculosis in Newton were summarized (3) selected bulletins (19 in number) regarding tuberculosis, printed by the National Tuberculosis Association, the State Association, the Life Insurance Companies, and the State Health Department, were gathered together. All of this material was bound in individual volumes and a complete copy given to each science teacher. At the time of distribution, a round-table discussion was held with the members of the science department, all questions answered, and the possible uses of the teaching kit explained. With all of this material immediately available, the teachers were then allowed to design their own teaching projects. Some very interesting programs were developed. The idea of placing this data, organized in the manner described, seemed to inspire the teachers to renewed interest in the problem. We feel that this is another sample of the type of cooperation between Health and School Departments which Dr. Bailey suggested in her paper yesterday.

2. Copies of any of the publications supplied the teachers were given to the students upon request. Fourteen thousand seven hundred and fifty pieces of literature on tuberculosis were distributed in this way.

3. Letters were written to all of the clergy, asking that they make an announcement regarding the tuberculin testing program from their pulpits, and that, if possible, they place a notice in their weekly calendars.

4. Through the courtesy of the Massachusetts Tuberculosis League, the sound picture "Behind the Shadows" was shown to all children in the seventh, ninth, and eleventh grades.

5. Accompanying this picture, the health officer gave a short talk regarding the tuberculin test, and actually demonstrated the test either on a popular teacher or on a popular student.

6. Some articles appeared in the local weekly papers describing the importance and previous results of the school clinics.

7. Talks were given by the Health Officer before the various service clubs and women's clubs of the city.

8. Two hundred and fifty posters, supplied by the National Tuberculosis Association, were placed in local stores, libraries, and meeting places.

9. The public health nurses made a home visit to families refusing permission, in order to explain further the objects and importance of the procedure.

As a result of these procedures, the percentage of tests among the children of the seventh, ninth, and eleventh grades rose from the 65.6% of 1936 to 78.4%, an increase of 12.8%. Two thousand four hundred and forty-three children were tested, in addition to 222 already supervised from the clinic of 1935, making a total of 85.2% of the total school population of these grades tested for tuberculosis.

There can be little doubt that these increases in tests were the direct result of the health education campaigns conducted prior to the testing clinics. The comparison of Newton results with those of the state as a whole, and of Middlesex County, demonstrates these results graphically.

The total cost of this entire program amounted to $79.58, fifty dollars being contributed from the Christmas Seal Sale Fund.

I would like to emphasize again, the fact that the key to the success of this program was the interest shown by the teachers, and that this interest was elicited by the simple procedure of placing in their hands helpful teaching material and offering to assist them in organizing their knowledge regarding tuberculosis.

Although the techniques described are not original and perhaps not unique, it seemed worthwhile to bring to your attention the dramatic results that may be obtained by relatively simple procedures in the field of Health Education.

* * * * *

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THE PREVENTIVE MEDICAL VERSUS THE PHYSICAL TRAINING APPROACH TO SCHOOL HEALTH PROBLEMS

D. F. SMILEY, M. D., *Professor of Hygiene, Cornell University, Ithaca, N. Y.*

For many years past, the approach to the problems of school health has been through the field of physical training. There has been the tacit assumption that the physical training program should provide on the physical side of the child's life what all the rest of the school program provides on the intellectual side. This method of approach is based upon the educational theories of the early Greeks, i.e. a sound mind in a sound body; philosophy to teach them how to think; physical training to develop the body. And in the much simpler civilization of the early Greeks, where both work and warfare put a premium upon strong muscles, and society demanded very little in the way of factual and vocational training, it was perhaps an adequate educational program.

But new conditions have long since outmoded this physical training approach to our school health problems. Big muscles play but little part in modern society and in modern warfare; what one must know about health properly to prevent illness and promote well-being has become a very substantial mass of subject matter; the technique of health servicing has been markedly developed in the hands of modern physicians, nurses, dentists, and dental hygienists; the whole field involving the development of control of our emotional responses has been opened up by our mental hygienists and psychiatrists; the whole superstructure of preventive medicine has been built upon the foundation so laboriously laid by generations of medical scientists. Just as we have had to expand the original philosophy to include numerous factual and vocational courses in our modern schools, so must we expand our original physical training to include health habit training, health teaching, health supervision, mental hygiene training, and physical education.

What we really need then, in our public schools, is the preventive medical approach rather than the antequated physical training approach to our school health problems. Put a modern six-point public health program (communicable disease control measures, sanitation, child hygiene measures, vital statistics, public health laboratory services, health education) into our public schools and the health of our children will begin to show definite and measurable improvement.

Assuming that such a goal were adopted, what would be the essential steps in approaching that goal? I would suggest five such steps: (1) Develop short training courses (one summer session for part-time men, one year for full-time men) which will prepare our school physicians to attack the health problems in their schools intelligently and on the preventive medical basis. (2) Develop a standard contract to be used by all A. M. A. physicians in their contractual relations with the public schools, this contract to set certain minimum standards as to the program of activities and the staff to carry it on (it would not

permit of a half-time physician being asked to examine 4500 children each year). (3) Develop among the medical profession the following conceptions of school medical service, (a) it is not a treatment service, (b) it is not expected to provide each child with a meticulous medical examination annually (that is the parent's responsibility and family physician's function), (c) it is expected to provide a continuous health supervisory service based upon the continuous screening by the classroom teachers, (d) it is expected to provide certain group tests, (e) if properly organized it can be made a high-grade preventive medical service to which any doctor can be proud to contribute through a lifetime of service. (4) Develop at our universities special training courses for health teachers who will superimpose upon a foundation of science courses and professional education courses, a course in health education which will prepare them (a) to present adequately to high school pupils, the facts of modern preventive medicine, (b) to keep their health knowledge abreast with the many changes and additions being made to health knowledge from month to month.

In a recent conference, Derryberry drew the following parallel: "If a group of physicians engaged in orthopedic work for a group of children discovered that those children needed certain general educational services and called upon one educator to come into the hospital for a few hours at the beginning of the year to look the children over and to tell them what they should do about their educational problems, would the educator be flattered with the proposal, and would he feel that he could function effectively under such limitations as to time and facilities?" The answer is emphatically No! And that should be the physician's answer who is asked to come into the school as a mere adjunct of the physical training program.

We have talked putting preventive medicine into our school system for the last one hundred years, as Dr. J. F. Rogers pointed out in a recent paper. Isn't it time we stopped talking and actually began taking the practical steps necessary to bring this about?

* * * * *

Association of Women in Public Health.—At the seventeenth annual meeting of the Association of Women in Public Health held at the Hotel McAlpin, New York, October 7, Miss Sally Lucas Jean, Executive Secretary, Health Section, World Federation of Education Associations, was elected to succeed Dr. Mary L. Lakeman as president of this national group of health workers in the fields of public health, medicine, nursing, bacteriology, chemistry, statistics, and health education from all parts of the United States. The supporting slate includes Dr. Florence Mirick Ross of Rhode Island College of Education as vice-president, Miss Pauline B. Williamson, director of the School Health Bureau, Metropolitan Life Insurance Company, as secretary, and Mrs. Marjorie B. Illig, national commander of the Women's Field Army of the American Society for the Control of Cancer, as treasurer.

WHAT STANDARDS SHOULD BE USED IN DETERMINING THE NUTRITIONAL STATUS OF SCHOOL CHILDREN?*

EARL E. KLEINSCHMIDT, M. D., Dr. P. H., *University of Michigan,*

Within the past twenty-five years the nutritional status of school children has come in for considerable attention. Much effort has been expended in setting up certain criteria for the measurement of their growth and nutritional condition. Of the more common methods devised for the measurement of nutritional status the Dunfermline scale, the Sacratama method, the Pirquet index, and the Baldwin-Wood height-weight-age scale have come into greatest use. Recently there has been added still another method, the A. C. H. (Arm-Chest-Hip) index, a method which some believe to hold considerable promise. All of these measures have been developed on the basis of medical judgment and measurements of anthropological importance.

Taken as a whole, these methods, other than the physician's rating, are useful for handling and selecting defective children where a large number are being studied, as in the public schools. They have in their favor the fact that they are objective, practical, and not too time consuming. In addition, they are readily adaptable to schoolroom use. This is especially true of the Baldwin-Wood method. Very little equipment is necessary to make the necessary measurements. Despite these apparent merits, however, intensive studies of late by nutritionists and public health investigators have revealed them to be partially inaccurate and no longer in keeping with present definitions of nutritional status.

Until comparatively recent times, indices of nutritional status were associated with measurements of height, weight, and musculature. Major emphasis was placed on the relative weights of the children examined. This concept of nutritional measurement has of late undergone marked change. In keeping with corresponding developments in other fields of child study, nutritional status now enjoys a much broader definition than formerly. Although it is rather difficult to define it accurately, it at present connotes a descriptive evaluation of those factors which make up the sum total of bodily well-being or health. For the nutritionist, it has come to mean an evaluation of the adequacy, both qualitative and quantitative, of the foods comprising the diet of an individual and the general sufficiency of his environment.

This change of definition has made necessary a much different approach to the problem of its measurement. It has meant, for example, that finer methods of measurement had to be devised,—methods which would take into consideration the most important factors possible which have diagnostic significance and still enable the user to have a simple yet adequate measure of nutrition. Moreover, as it actually turned out, it has led to the discovery of quantitive relationships heretofore unknown.

Before considering this newer approach to the problem, let us consider momentarily the methods now in use to see wherein they fail to fulfill this

*Reprinted from the Bulletin of the Michigan School Health Association, May 1937, Page 1.

larger definition. The widely-used Baldwin-Wood tables give standard weights for children in specified age, sex, and height groups. Individuals weighing more than ten percent less than these averages usually are considered under-weight and therefore under-nourished; individuals weighing between ten percent below and fifteen percent above the standard are classed as normal; while those weighing more than fifteen percent above the standard weight are designated as over-weight and presumably over-nourished. But what do the terms over-weight and under-weight mean? As was brought out in a recent discussion at the Child Health Conference at Iowa City, these terms in themselves are practically meaningless simply because they have no scientific relation to nutritional status. Other indices of nutrition proposed by Pirquet, Dreyer, Taylor, and others, although differing in certain details of procedure and application, are fundamentally similar to the Baldwin-Wood method. Likewise they are open to the same criticisms.

Against all these methods, the criticism is leveled that the different groups designated are to a considerable degree representative of different types of body build or body proportions rather than different grades of nutrition. And while it is obvious that well-proportioned individuals are likely to be well-nourished, it is generally true that in the application of these methods there is a definite tendency to discriminate adversely against the slender, slight individual who may be very healthy, and to favor unjustly those who are stout or obese. In recent investigations, it has been found that although all of these methods have a single aim, actually there is little agreement among them. Still another criticism, and certainly a most important one from a scientific standpoint, is the fact that all measurements of nutrition based on deviations of body weight take account of only the quantity of body tissue present rather than its quality. The nutritionist regards this of paramount importance. Some methods particularly the Sacratama method do take account of this factor, but to a limited extent only simply because it has been necessary to obtain it by subjective methods.

It was only logical that investigators endeavor to overcome these various objections in devising a more simple yet accurate index of nutrition. The research staff of the now defunct American Child Health Association, particularly Drs. Franzen and Palmer, have done this, and have designated their new method the A. C. H. index (1). At present this method may be used only in the age group seven to twelve years. It is still in the experimental stage, and although it has not been widely used, it has received the approval of all who have given it a fair trial.

In the face of this development, the question naturally arises: "What is to be done with the weighing and measuring program now so firmly intrenched in the public schools as the standard method for determining nutritional status of children?" Best to answer this question may we quote from a paper written in 1930 by Miss Anne Whitney entitled "Weighing School Children (2)." This paper expresses the present attitude of nutritionists relative to this practice as follows: "Continuous records of height and weight of a pupil

as a general land mark of growth are valuable to administrators and teachers provided trends are watched rather than the relation of any child's weight at a given time to that of the average weight for height and age. A continued loss of weight or a continued cessation of gain should be brought to the attention of parents that they may seek professional advice."

The conservatism expressed by this statement would seem to indicate that we must exercise considerable caution in the selection of methods for the determination of nutritional status. We cannot, therefore, accept the new A. C. H. index unreservedly until it has definitely proved its superiority over the older weighing and measuring method. As yet it can be said that neither the older methods nor the new A. C. H. index are entirely flawless. In deference to all that has been done in their developmnt, we now realize that all of them possess certain merits in part, consequently we are justified in retaining some of the older methods particularly the Baldwin-Wood method until the A. C. H. index or others have proved themselves more valid. But from all reports we must agree that the A. C. H. index possesses the highest degree of accuracy judged by medical standards.

What then is the basis for the A. C. H. index? In what respects is it superior to standards of measurement advocated for the older methods? Like its predecessors, the A. C. H. index has as its starting point the judgment of certain skilled medical practitioners coupled with a very complete set of measurements such as shoulder breadth, hip-width, chest-width and depth, height, weight, arm and calf girth, size of deltoid muscle, and thickness of subcutaneous tissue over different areas of arms and legs. Without going into details, it can be said that as the result of extensive experimentation on thousands of school children it was finally concluded that the best practical solution of the problem lay in the use of three measurements; namely, arm girth, chest depth, and width of hips. The use of these measurements has been proved, by extensive correlations, to select the most under-nourished cases of any set of measurements which considered body build in relation to soft tissue.

Using these measurements we are able, by referring to a table and performing some simple arithmetic, to ascertain whether a child is selected as having defective nutrition. Of the several ways available for the selection of defective children, the more common is the one which selects about ten percent of a group in a broad, general sampling. About sixty percent of this selection are extreme defect cases and over eighty percent are either extreme defects or those that border on extreme defects. The scale for the selection of children can, however, be set even more rigidly so as to select a quarter of those measured. In either case the selection is more accurate than the height-weight-age scale. Where the A. C. H. index selects three-fifths of extreme defect cases, the height-weight-age method when used in a comparable manner selects only one-fourth.

Points in favor of the A. C. H. index then are as follows:

1. Objectivity—The method enables two examiners to measure a child and arrive at the same judgment.

2. Practicability—Each examination requires less than two minutes to perform.

3. Simplicity—Any intelligent person can perform the examination with success.

4. Validity—It selects a higher percentage of defective children than any other method.

5. Recognizes body-build, soft tissue relationship—Cognizance is taken of relation of soft tissue to body build in arriving at a basis for the selection of defective children.

6. Medical Judgment—All selections made are evaluated finally in terms of medical judgment.

7. Standard measures—Standard instruments are used for measurements.

8. Selectiveness—It selects those children in need of immediate medical attention.

Limitations of the A. C. H. index already acknowledged include:

1. Age-group—In its present state of development the A. C. H. index is applicable only to the age-group seven to twelve years.

2. Interpretation—What the A. C. H. index selects is not exactly understood, despite its high correlation with medical judgment of nutritive status.

In conclusion, it should be recognized that the measurement of nutritional status of school children is by no means a settled problem. None of the older methods are entirely without question nor does the latest method—the A. C. H. index—appear to be without faults. An evaluation of their respective merits reveals that we are not prepared as yet to accept unreservedly any of the methods already proposed. As was pointed out earlier in the discussion, our increasing knowledge of proper nutrition has made this problem of its measurement even more difficult than formerly. As a consequence we must conclude that all methods previously mentioned possess merits in terms of the definition of nutrition held by their originators. While no effort has been made in this short article to attempt a detailed discussion of their respective merits, it may be safely concluded that the A. C. H. index comes the closest to measuring the nutritional status of children.

(1) Raymond Franzen, Ph. D. and George T. Palmer, Dr. P. H. The A. C. H. index of Nutritional Status. 1934. PP. 12; Published by the American Child Health Association. New York City, New York.

(2) Anne Whitney. Weighing School Children. Child Health Bulletin, March, 1930, page 42.

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The American Medical Association's radio program continues:— *Hygiene*: November 10—Playing for Fun. Health values and hazards in sports and recreation, including football. November 17—Fresh Air, Fresh Clothes, and Fresh Skin. Ventilation; clothing; bathing. November 24—Rest, Relaxation, Refreshment. All work and no play, or all play and no rest—bad for health. December 1—Tuberculosis, Foe of Youth. How bad habits of hygiene and unwise living, plus infection, favor tuberculosis.

CORRECTIVE WORK BY STUDENT HEALTH SERVICES

A. G. Gould, M.D., *Assistant Professor, Cornell University*

During the present college year, correspondence has been received from twenty-four representative colleges and universities of this country with respect to their programs for the correction of the physical defects of their students. In only a few instances was it possible to obtain any statistical results of such programs. All correspondents manifested an interest in the correction of these defects but few knew how effective their programs had been, largely because of the lack of a measuring stick for such work.

All of the twenty-four health services provided examinations and health conferences with each of the new entering students, although in the case of one university, the examinations were to a great extent performed before matriculation by the students' own family physicians. Two others, one co-educational and the other for women only, required pre-entrance examinations by the family physicians. The examination blanks properly filled out were forwarded to the colleges prior to admission. Where physical defects were indicated as present, the college physicians by correspondence then urged that the prospective students have these corrected prior to college matriculation.

In nineteen institutions at least, and possibly in three others, follow-up programs to secure the correction of physical defects are in vogue. In one of these, the follow-up program was described as "very intensive". In five of the nineteen having definite programs, letters are also sent to the students' parents advising and urging the correction of defects.

Correction of defects is compulsory in only one of the twenty-four institutions and then only if the defect interferes with the student's college work. Fifteen of the twenty-four institutions do none of the corrective work. In two institutions any corrective work needed is done, and in another institution the same practice applies, providing the student is not living at home. One university provides refractions at cost, another remedies dental and visual defects, and still another remedies dental and visual defects and performs all necessary emergency surgery.

In apparently all but one of the institutions, the Departments of Physical Education do what corrective work they can with postural defects.

At Kent State University, the health conditions of the students are scored on a basis of 400 points for a perfect score. This score is determined by physical examination, by the immunity record, and by the clinical history. The health habits are similarly scored on a basis of 100 points for perfection. The college physician scores the student's health condition, and any time that the student thinks he has improved his health grade, he may return with his record for consultation with the college physician. The student scores himself for his health habits.

Vassar College has a pre-entrance examination, as well as an annual examination of students. Those with known physical defects are examined first each year. The girls are graded A, B, C, D, and E according to their health standards.

At the University of Michigan during a four-year period (September 1924-June 1930) an average of 38% of the examinees were notified by letter to return for rechecking. An average of 62.5% responded to these letters. Of those who reported for rechecking during one year, almost half (45%) had already secured attention.

A rating system of A, B, C, and D has been in use at the University of Michigan. Perusal of their statistics would indicate that after a follow-up drive for the correction of defects, the percentages of those in Classes A and B increase, while Class C percentage diminishes and that of Class D remains about the same.

At Cornell University, we have graded the students on a percentile basis, deducting 5% for each uncorrected remediable physical defect and health habit. Prior to the college year 1935-36, no intensive follow-up drive for the correction of defects was made other than the annual health examination and urging of corrective measures at those times. Yet, we found that the percentile ratings, in general, increased with each examination.

Dr. William R. P. Emerson* has found in a woman's college, on the other hand, that the amount of health intelligence the student applies to her own living grows steadily worse from the freshman to the senior years, and "that the higher the intellectual attainments in the subjects of health and disease, the lower the health intelligence. In other words, the greater the student's theoretical knowledge of health, the poorer her practice."

At the University of Rochester, Dr. Fauver makes certain recommendations in regard to corrective work when each student enters college. He found in April, 1937, that 71% of the recommendations made in all classes have been followed:

97% of the senior class defects have been corrected
83% of the junior class defects have been corrected
83% of the sophomore class defects have been corrected
54% of the freshman class defects have been corrected

Dr. Fay C. Bartlett, assistant professor of physical education at Lehigh University, has made the following observations concerning the correction of postural defects, some of which may be applied to the correction of defects of a non-postural nature:

"1. An early follow-up is highly desirable. Students are indifferent to posture, and an early treatment is best.

"2. Many of the defects in posture which we consider, are falsely thought by the student to be of a minor nature.

"3. Correction of physical defects by suggestion works very well.

"4. Constant suggestions are desirable if the instructor does not become a bore.

"5. Sometimes short conferences with the individual will do more than exercises that are prescribed.

"6. A 100% follow-up system is the keynote to a good corrective program."

*William R. P. Emerson, Health Habits in a Woman's College, J. A. M. A., May 5, 1928, Vol. 90, pp. 1434 and 1435.

SUMMARY

1. Attempts are, in general, universally made to correct physical defects among college students.

2. Few institutions know how successful their corrective program is.

3. Various methods are in use for scoring the health of the students.

4. Many students secure correction of their defects following the physical examination. Those who do not should be "followed-up" by health conferences.

5. The speaker believes that each institution should institute a statistical method to measure the results of the corrective work.

6. It is debatable as to how much responsibility a student health service should assume in the correction of physical defects. It is noteworthy that where the full corrective programs are in vogue, the institution usually has a medical school, whose staff takes over the corrective work.

* * * * *

Tuberculosis Education.—Of outstanding interest in the past year has been the growth of affiliated association interest in the new local plan for the tuberculin testing of seventh, ninth, and eleventh grade pupils in public and parochial schools.

After conference with the Tuberculosis Division of the State Department of Public Health and the sanatorium superintendents, new interest was developed in many sections. The League procured a sound motion picture projector and in eighty-one showings since January 12 of this year presented its talking film "Behind the Shadows" to 27,000 persons, largely pupils, but partly their parents and teachers.

The Norfolk County Health Association, appreciating the plan, bought a similar sound projector and film. In thirty-five showings in eleven towns of the county, it showed to 7,500 persons. A sound film was also procured by the New Bedford Anti-Tuberculosis Association.

Thirteen more affiliated associations have bought copies of the silent film, and most of these associations have projectors. If the average total audience be conservatively estimated at 7,000, it would increase the audience this year by 91,000 persons. Many more will see the film before the school year closes. —Massachusetts Tuberculosis League, Annual Report of Executive Secretary. The New England Journal of Medicine, September 2, 1937, page 413.

* * * * *

Tuberculosis Reactors Among Students in Education.— Survey of 261 individual senior students made during the school year 1936-1937 who were seniors in the School of Education in the University of Wisconsin (181 females, 80 males). There were found 114 positive reactors.

The newly entered students at this university showed 28% positive reactors, but the positives in this group of seniors had jumped to 44%.—Journal Lancet, October 1937, page 451.

EDITORIALS

Epidemics.—The American Journal of Public Health in the October 1937 issue, reports two epidemics of typhoid fever. The first[1] is definitely traced to cream puffs manufactured in a bakery where the person who filled the cream into the shells was an intermittent typhoid carrier; and the second,[2] a serious epidemic resulting in 718 cases with 31 fatalities occurred in England, apparently proven to have been caused by raw milk. The Editorial has this to say regarding milk-borne typhoid fever. "We have often spoken of typhoid fever as a vanishing disease, and its marked decrease has evidently given a false sense of security. Only pasteurization of all market milk can avert such tragedies as the one under discussion. Indeed, typhoid fever is not the only thing that we must guard against by pasteurization. On June 28, 1937, the New York State Department of Health reported a milk-borne epidemic of scarlet fever which began on May 27, 1937, and ended June 4, with 11 cases, but fortunately with no fatalities."*

Health workers in schools, whether physicians, nurses, nutritionists, or others responsible directly or indirectly for the distribution of food either in school cafeterias, nutrition classes, or for other provisions for feeding children under school supervision, can not be too careful as to the source from which such foods come. Cream pies and cream puffs have been responsible for the spread of typhoid fever and for several severe outbreaks of "poisoning" or bacterial infection of those who have eaten them.

The typhoid fever epidemic in England and other information from the Editorial are further proof of the truthfulness of the statement "the only safe milk is pasteurized milk".

* * * * *

Health Information.—In the paper by Dr. Harold D. Chope, Health Commissioner of Newton, Mass., there is reported the results of a simple completion test regarding the facts of tuberculosis given to an unselected group of classroom teachers in that community. One-half of these teachers answered more than one-half of the questions *incorrectly*.

For years to come, we must depend on the classroom teacher for by far the larger part of the health teaching in the schools. For twenty years, the city of Newton, Mass., has had in its schools one of the most highly advertised, and most closely supervised health teaching programs of any school system in this country. If these teachers—supposed to be "health minded"—make such a poor showing, what must be the status of information among teachers in the other schools of our country.

Is it any wonder that it is profitable to shower upon us from the radio, the printed page of magazines and daily papers, and through the mails, a depressing mass of false advertising concerning foods, drugs, cosmetics, and surgical supports?

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[1]"Outbreak of Typhoid Fever in Grand Rapids, Michigan, John L. Lavan, M.D., page 1025."

[2]"A Milk-Borne Epidemic and Its Lesson, Editorial, paee 1042."

Unfortunately, a considerable part of this false advertising—this reaching for the dollar of the uninformed and the gullible—seems to have the support of some persons holding the Doctor of Medicine degree. While usually the health "columns" in our newspapers contain worthwhile and scientifically established information, this seems not always to be the case.[3]

Has not the medical profession, the parents who ultimately must pay the bills, and the Boards of Education who are compelled to hire teachers so largely uninformed or misinformed in health matters, not only the duty to request but the absolute right to insist that a much larger part of the program of studies in teacher training institutions—many of them state owned, financed, and supervised, and nearly all of them under more or less direct state control—be devoted to giving health information, both personal and public, so that their graduates may have some worth while health knowledge—and health habits—to pass on to the relatively helpless children placed in their care.

* * * * *

American School Health Association.—At the annual meeting of the American Association of School Physicians at New York, October 3-8, there were held, in addition to several scientific sessions, two business sessions.

On Monday, October 4, the Association adopted the new Constitution and By-Laws, changing the name to the American School Health Association. This new Constitution broadens the base of membership, so that not only physicians but dentists, nurses, public health workers, nutritionists, mental hygienists, and health educators are eligible for membership. It is the desire to admit all who are interested in school health and the health of children, who also have adequate training in the basic medical sciences—"those sciences which acquaint one with the structure, functions, and care of the human body".

A new class of membership is created. While regular memberships may remain at $2.00, those who have been members of the Association for five years—either the American Association of School Physicians or of the American School Health Association—may become Fellows of the American School Health Association upon application to the Secretary, election by the Governing Council, and the payment of the Fellowship fee, which is $5.00 per year. This gives opportunity to Members of five or more years standing to express their continuing interest, and to demonstrate this by a greater annual contribution to the support of the Association and its publications.

The Governing Council (replacing the Executive Committee of the Association) will be made up of: (1) The officers of the Association. (2) Fifteen members elected from the membership of the Association, each to serve for 3 years—except that at the first election held under this Constitution 3 members shall be elected for 3 years, 5 for 2 years, 5 for 1 year. (3) One representative from each Section and each affiliated Association.

[3]The Journal of the American Medical Association, October 16, 1937, page 1282.

ABSTRACTS

Mental Health.—In a contest recently conducted by the Cleveland Academy of Medicine, the following set of rules for mental health was awarded first prize:

"1. Have a hobby, acquire pursuits which absorb your interest. Sports and 'nature' are best.

"2. Develop a philosophy, adapt yourself to social and spiritual surroundings.

"3. Share your thoughts, cultivate companionship in thought and in feelings. Confide, confess, consult.

"4. Face your fears; analyze them; daylight dismisses ghosts.

"5. Balance fantasy with fact; dream, but also, do; wish, but build; imagine, but ever face reality.

"6. Beware alluring escapes; alcohols, opiates, and barbitals may prove faithless friends.

"7. Exercise, walk, swim, golf; muscles need activity.

"8. Love, but love wisely; sex is a flame which, uncontrolled, may scorch; properly guided, it will light the torch to eternity.

"9. Don't become engulfed in a whirlpool of worries; call early for help. The doctor is ready for your rescue.

"10. Trust in Time; be patient and hopeful; Time is a great therapist."
—Bulletin, Cleveland Academy of Medicine.

* * * * *

Infantile Paralysis.—Poliomyelitis, commonly known as infantile paralysis, has been more prevalent in Illinois during the current season than at any previous time, as revealed in the accompanying illustrations. In some parts of the State, schools have been closed or the opening delayed as a preventive measure. To be logical and consistent the schools should be closed also as a preventive measure against epidemic meningitis, tuberculosis, scarlet fever, diphtheria, rabies and even motor traffic accidents. The risk from each of these except the first is considerably greater than the danger of poliomyelitis to any particular child and attendance on schools is a more positive factor in the occurrence of each except the first.

The way in which poliomyelitis spreads appears from all available evidence to be very similar to the way in which epidemic meningitis spreads, and the two diseases attack much the same age group. Competent epidemiologists have shown that attendance on schools has no measurable influence whatever on the spreading of epidemic meningitis, and there is no reason to believe that it has any effect on the spreading of poliomyelitis.

An outbreak of 264 cases of epidemic meningitis at Saginaw, Michigan, in 1929, for example, was carefully studied epidemiologically by Pickett who found that[1] "among 61 cases occurring among school children, 31 schools were represented and only in 2 instances did as many as 2 cases occur in 1 schoolroom." At Milwaukee, French made a detailed study of 383 cases of epidemic meningitis which occurred in that city during the three years 1927-1929. He

[1]Jour. A. P. H. A., Feb. 1931, p. 144.

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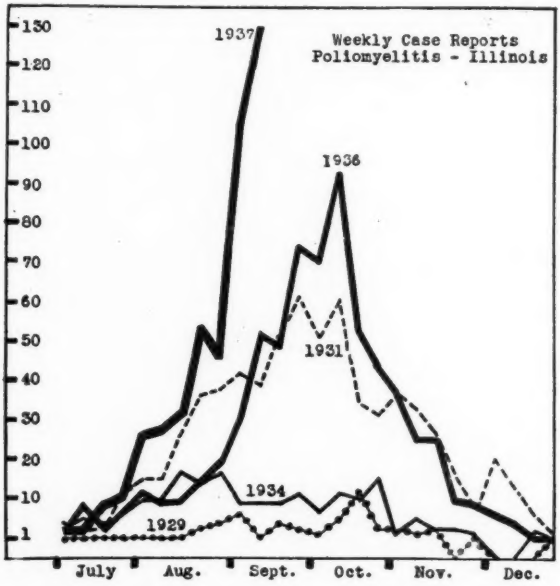
concluded that[2] "the schools played no part in the spread of this disease, although a number of school children had it. The possibility of intimate contacts developing meningococcus meningitis was very slight, for less than 1 per cent of those exposed developed the disease."

The prevalence of poliomyelitis invariably begins to climb annually in July or early August, before schools open, and to decline almost precipitously in late September or October regardless of whether the schools are open or closed. This is shown in the accompanying illustration of weekly case reports during the prevalence season of two typical low incidence years, two previous epidemic years and of this season up to September 13. It was revealed at Rockford last year, where an epidemic of 37 cases occurred with no evidence that the schools played any part in the outbreak. Although the schools were not closed the prevalence course ran true to form, the incidence declining rapidly in October.



It would be more logical and rational to close most schools as a preventive against tuberculosis than against poliomyelitis. Tuberculosis is known to spread from person to person by close contact, about 1 in each 150 teachers is actively infected and children are much more generally susceptible than to poliomyelitis. It causes a much greater loss of health and life than does poliomyelitis. Most school authorities, however, do not so much as require teachers to be free from tuberculosis although the disease can be detected when present with a high degree of accuracy.

Diphtheria and scarlet fever are both greater risks to children than is

[2]Ibid, p. 138.

poliomyelitis, even during epidemic waves of the latter, but the closing of schools is rarely resorted to as preventive measures and then only by communities with inadequate public health facilities. Up to September 13 there had been reported this year in Illinois 1,155 cases of diphtheria and 17,009 of scarlet fever, giving about threefold and fortyfold, respectively, greater risks to children than poliomyelitis of which 464 cases had been reported. The health of perhaps more children is permanently impaired by scarlet fever and diphtheria than by poliomyelitis, although not so obviously.

Nothing is said here by way of minimizing the seriousness of poliomyelitis or to discourage the vigorous use of every rational means of control and prevention. There is no evidence that closing schools has any effect on the prevalence of poliomyelitis but it does tend to create public alarm and hysteria.

No practical method of preventing poliomyelitis, suitable of general application, has been demonstrated. Nasal sprays appear to be effective if given soon enough and frequently. Proper administration of sprays requires considerable medical skill, however, and the spraying would have to be done prior to the epidemic outbreak to protect very many people. It was tried last year in Alabama and Tennessee on a large scale without demonstrable benefit. With poliomyelitis no more prevalent than it is now in Illinois, many thousands of persons would have to be sprayed in order to prevent cases and it would be very difficult to measure the results.

Reliance for control must be placed principally upon the management of patients after the onset of illness. The physicians of Illinois of greatest experience with poliomyelitis believe that convalescents' serum is beneficial when given prior to the onset of paralysis or even after onset in patients with progressive paralysis. After the onset of paralysis, good orthopedic care is of overshadowing importance to the welfare of the patient.

The State Department of Public Health provides convalescents' serum free of local cost and recommends its use in treating patients early in the disease.

Up through September 14, a total of 482 cases had been reported in Illinois this year and of these 244 were in Chicago, the others being widely scattered throughout the State. — Illinois Health Messenger, Dept. Public Health, Oct. 1, 1937, p. 131.

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Health of Preschool Children.—Henderson* examined 1,530 preschool children to determine at what age physical defects appeared. Of 1,014 children less than 2 years of age, 526 (51 per cent) had physical defects other than constipation and disorders due to faulty methods of feeding; and of the 516 children over this age 362 (70 per cent) had one or more bodily defects. The fifteen most obvious disorders were digestive (104), congenital heart disease (nine), skin disease (145), hernia (fifty-two), orthopedic defects (thirty-six), defects of the nervous system (fifty-five), diseases of the eye (100), rickets

*Archives of Disease in Childhood, London, June, 1937. The Journal of the American Medical Association, September 11, 1937, page 909.

(thirteen), enlarged tonsils and adenoids (345), otorrhea (sixty-one), palpable cervical glands (428), carious teeth (245), respiratory diseases (255), anemia (forty-nine), and malnutrition (ninety-five). There were fourteen other defects (thrush, harelip, goiter and the like) that were self evident. The author believes that to state, without qualification, that 60 per cent of the 1,530 children examined had physical defects would be to give a grossly distorted picture of the health of the preschool child. If it is agreed that unusual palpability of neck glands is not necessarily and in fact rarely is a sign of disease and that simple enlargement of the tonsils has no adverse effect on the child's health, only a minority of preschool children will be found to have physical defects other than carious teeth. But a substantial minority (16.6 per cent) have had or still have attacks of bronchitis, which in more than 50 per cent of cases followed an infective condition of the nasopharynx or respiratory tract of some other member of the family. Malnutrition was a problem of importance, but a problem of much greater importance was that 30 per cent of 1,214 families whose economic state was specially investigated had incomes insufficient in amount to buy the food stated by the Nutrition Committee of the British Medical Association to be the minimum essential for health. Carious teeth became a problem only after the age of 2 years, but then it became a serious one and one that increased with age. Though an increasing and more regular attendance at the infant welfare centers will help to improve and foster the health—and thereby the happiness—of the preschool child, it is still felt that no great advance in the standard of health of the citizen of tomorrow can be expected until the problem of adequate feeding of all the children in the community is scientifically and thoroughly managed.

* * * * *

Why Do Teeth Decay?—For a long time sugar has been suspected as an important factor in the cause of decay in teeth. Now comes a report on experiments which indicate that refined sugar as well as refined cereals cause rapid decalcification of teeth whereas crude sugar and whole grain cereals do not. In these experiments, done by Osborn, Noriskin and Staz, at Johannesburg, South Africa, and reported on in the June, 1937 issue of the Journal of Dental Research, the results suggest that crude sugar—cane juice—as well as meal and flour made from whole grains, contain some *protective agent* that is removed in the process of refinement.

The experiment was performed by taking undecayed, normal teeth from patients who had been advised to have multiple extraction. In some instances the teeth were cut in two, the cut surfaces being sealed over with cement and one part placed in a solution of mixed refined sugar or cereals and saliva, while the other was immersed in a similar mixture of crude sugar or whole grain cereal. In some instances whole teeth were used likewise. The teeth were left in the solution for periods varying from two to eight weeks. Of 17 teeth immersed in a saline-saliva mixture, none decalcified while 3 of 32 subjected to crude sugar cane juice and saliva and 15 of 32 immersed in a refined sugar-

saliva solution decalcified. Mixtures containing whole grain flour and meal caused a relatively high percentage of the teeth to decalcify, but those containing refined cereals decalcified a significantly higher proportion.

"Some teeth decay because they were poorly made or because they were weakened from within," declare the authors of the experiment, while "some teeth decay because their exposed surfaces are attacked by acid-producing bacteria." The structure of teeth, in other words, depends upon a well balanced diet plus an efficient nutritional utilization of the foods consumed, while the durability of teeth depends upon protecting them from those food substances which cause rapid decalcification. "It is probable," to quote further, "that some teeth are so weak that the most innocuous food debris will rot them; it is probable that the strongest teeth will succumb to some surface attacks; and it is probable that the two factors often work together."

When decayed teeth are found in the mouths of from 50 to 90 per cent of the school children in Illinois, it seems important to get at the cause of this widespread disorder. It would seem from the experiments referred to above, that a great deal can be done in building and preserving sound, durable teeth, but that good teeth may be had only at the expense of strict discipline of dietary habits and practices.—Illinois Health Messenger, August 1, 1937, page 87.

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Dental Health.—Records kept on 409 grade school children in 37 different classrooms who were examined by dentists from the State Department of Public Health during February 1937 show that only 53 were free from cavities in the teeth. Of this number only 34 had never had a cavity, 19 having had fillings. In other words, 87% of this group of children had unfilled cavities at the time of examination. This situation shows the need of better health supervision over school children. With such a high rate of dental defects, these children would doubtless show a high rate of other physical defects since dietary and hygienic habits that cause dental decay result also in other types of physical abnormality.—Illinois Health Messenger, May 1, 1937, page 64.

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Scarlet Fever.—To a raw milk supply sold dip-fashion at reduced prices on the outskirts of Rockford was traced an outbreak of about 30 cases of scarlet fever. The epidemic, which began on March 23, and ran well into April, was confined exclusively to families who bought milk from the dealer in question. At the milk station had been employed during the early part of the outbreak a man who later was admitted to a local hospital ill with scarlet fever.

Further investigation by health officials revealed that on one of the four farms from which the dealer obtained milk were four young men with infected throats. This was shown by examination in the laboratory of cultures taken from the throats of all milk handlers on the four farms. It was concluded from this evidence and from the time-spread of the cases that the

epidemic originated from the four infected employees on the farm.—Illinois Health Messenger, Department of Public Health, May 1, 1937, page 61.

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Pertussis.— It may be said that while the final word on the value of pertussis vaccine in proplylaxis must await the passage of time, we have now enough evidence of this value to recommend it to our patients as a safe procedure of sufficient value to warrant an extensive clinical trial.—The Prevention of Whooping Cough, E. J. Huenskens, M. D., Minneapolis, Minn.

Either Sauer's or Madsen's vaccine should be given weekly in doses of 2cc., 3cc. and 3cc. ($\frac{1}{2}$ in each arm). The reactions are comparatively mild. Ten per cent of children thus immunized may contract whooping cough in a mild form when exposed to the disease compared to 75% of non-vaccinated children. —The Journal-Lancet, May, 1937, page 208 .

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A School Program for Saving Sight.—In York, Pennsylvania, the public schools provided facilities for having the children's eyes tested and the amount of light under which they work measured as a part of a sight conservation program. In addition, sight-saving equipment has been installed in 62 classrooms. The results of the tests made, as well as excerpts from current literature on sight saving, are published in "A Local Study Bulletin or Reference Manual," which has been placed on permanent file for the teachers' reference. Enclosed in the report are sample copies of the mimeographed letter to each teacher and the forms on which she was requested to report her sight-meter tests.—Sight-Saving Review, March, 1937, page 70.

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Student Nurses and Tuberculosis.—A five-year study is presented showing the development of tuberculous lesions in student nurses at the Boston City Hospital. On entrance to training, 57.6 per cent of 470 nurses were positive to tuberculin. At the completion of their training 95 per cent were positive.

Eight cases of tuberculosis have developed during the past five years in 273 student nurses who remained in training a year or more.

Only one of these cases developed in the positive reactors on admission. Seven cases developed among the negative reactors on admission.

In the seven cases that developed in nurses negative to tuberculin on admission, the lesions were of three types: first, those which became arrested with sanatorium care; secondly, those which were benign and became arrested while the nurses remained at work; thirdly, those which were progressive and failed to respond to treatment.

Regular, periodic x-ray examination is the most important procedure to be carried out in establishing the character of these early tuberculous lesions. —First-Infection Type of Tuberculosis in Adults. A Five-Year Study of Student Nurses at the Boston City Hospital. Theodore L. Badger, M. D., and Wesley W. Spink, M. D., The New England Journal of Medicine, September 9, 1937, page 430.

Tuberculosis Contacts.—Among some 27,000 high-school students tested in the school clinics from 1932 to 1934 the incidence of pulmonary tuberculosis was approximately 1 in 1,000, while in such children with home exposure to tuberculosis the rate was 25 per 1,000. If it were possible to obtain an accurate history of exposure in all cases, the search for tuberculosis in children might well be limited to the contact group, but unfortunately the history of such exposure is obtained only by diligent and tactful questioning, usually after the diagnosis has been established.—The Massachusetts Medical Society, Section of Tuberculosis. The Role of Contact Examinations in the Control of Tuberculosis, Alton S. Pope, M. D. The New England Journal of Medicine, September 9, 1937, page 422.

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Medical Inspection of Schools.—Dr. Ledent has just published some data on the present state of medical inspection service in the Belgian schools and on the need of reforms. At present from 40 to 60 per cent of children of elementary school age require medical attention. This presages that in the future 40 per cent of young men will be not fully qualified for military service. Eight per cent of children in the elementary group are three years behind their classes. There are 5 per cent of elementary school children who require special instruction. There is no medical inspection in the kindergarten classes, nor is it generally a part of secondary school routine at the difficult period of puberty, although it has quite recently been established in trade schools. The service at present entails a disbursement of about ten million francs, and the results are far from satisfactory. Flaws are to be observed in every aspect of the service: biopsychologic deficiencies of the children, faulty central administration, faults attributable to the communal councils, deficient collaboration of the teaching personnel, indifferent attitude on the part of parents, lack of altruistic attitude on the part of physicians. Accordingly, a "complete reorganization of medical inspection service in the schools," as every one calls it, has become the favorite object of study of various bodies, among them the Ministry of Education, the Parliament, the Conseil supérieur d'Hygiène and the Conseil supérieur d'Education physique et de Sport, the Fédération Médicale Belge, and numerous other scientific and pedagogic organizations in convention and out of convention.

From all this deliberation, no tangible program has resulted. The true objectives of a reorganization were set forth at the Congress of School Hygiene which met at Brussels in 1935: (1) surveillance of the sanitary conditions of every school, (2) cautioning of the school population against the menace of contagious diseases, (3) collection of data on the capabilities of the pupils, their growth and physical and mental aptitudes, and (4) instruction of both teachers and pupils in the rudiments of hygiene. Proposals for amelioration of the present situation may be summarized thus: 1. Legislation that would make compulsory a standardized medical inspection in all schools and whereby the central authorities would be empowered to inflict penalties for any omissions

or negligence in this regard. This generally approved measure awaits only parliamentary sanction. 2. Appointment of active medical practitioners to school inspection service. This proposal has been so hotly opposed by the medical profession in general and by the Fédération Médicale Belge that the ministry seems to have abandoned hope of its enactment. 3. Separate services to deal with the disparate needs of the urban as against the rural areas. It is proposed that in large cities and industrial towns the physicians on school medical service should devote about one half of each working day to this service, meanwhile retaining their general or specialized practices. Such an arrangement has already been adopted by many communities. In the villages the local physician will be assigned to inspection of a school or group of schools. He will receive instructions from a medical officer especially appointed by the Ministry of Inspection to supervise this rural service; namely, surveillance of both public community schools and private schools, approved or susceptible of being approved. Belgium (From Our Regular Correspondent). The Journal of the American Medical Association, August 21, 1937, page 602.

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Camp for Diabetic Children.—Camp Nyda, the camp for needy diabetic children from the clinics of New York City, has completed its second successful season. Established in 1935 by the New York Diabetes Association of the New York Tuberculosis and Health Association, Inc., Camp Nyda is now supported entirely by voluntary contributors, chief among whom is Lucius N. Littauer. During the 1936 season, twenty boys and twenty girls spent two weeks each at the camp. All eligible applicants were accepted.

The value of the summer camp experience for diabetic children is unquestioned. In addition to extending the regular camp benefits to a group which is otherwise of necessity excluded, Camp Nyda creates a unique opportunity to train the children in the care of their diabetes and affords a temporary relief to overtaxed parents.

The integration of diabetes camp work with a tuberculosis preventorium program is illustrated at the Prendergast Preventorium of the Boston Tuberculosis Association where twenty-four diabetic "boarders" are cared for along with a large group of pre-tuberculous children. The two groups of children mingle during most of their activities.—Bulletin of the National Tuberculosis Association, October 1937, page 154.

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Health Director Appointed for Simmons College.— Dr. Helen L. Roberts, medical consultant at Simmons College, Boston, has been appointed to the faculty with the title of Director of Health and Assistant Professor of Hygiene in accordance with an extended program of health service for students, effective in September. According to the New York *Times,* under the new plan the Director will have supervision of the two college infirmaries,

treat cases of minor illness and recommend hospital care for the more serious cases, and will be responsible for the periodic examination of food handlers. A special fee will cover also five days of care each year in the infirmary if recommended by the physician. The college will not provide medicines, but it will assume the cost of laboratory tests and such vaccinations and inoculations as may be required. Any necessary x-ray work will be done at the college without additional expenses to the student other than for materials. Dr. Roberts, who will devote her full time to the needs of the college community, graduated from the University of Michigan School of Medicine, Ann Arbor, in 1933.—Massachusetts. Medical News. The Journal of the American Medical Association, May 29, 1937, page 1896.

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The Public Health Education section of the American Public Health Association in its report on "Relation with the Child Hygiene Section", has the following interesting comment. "The school health education is a most important consideration in the health work, whose present organization is represented by the American Public Health Association. We should recognize the responsibilities of both the child hygiene and the health education section in health education in schools. . . ."

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The Crippled Child.—In the May, 1937, issue of *Hygeia* there is a brief discussion on "The Crippled Child" by Frank R. Ober, M. D., assistant dean, and clinical professor of orthopedic surgery, Harvard University Medical School. This radio broadcast was largely designed for the information of parents, and is a fine example of work being done by the Public Education Committee, Massachusetts Medical Society and Massachusetts Department of Public Health.

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REVIEW

The Family in Health and in Illness.—*By Florence B. Sherbon, M. D., McGraw-Hill Book Co., N. Y.,* 1937, pp. 516. Price $3.00.

This text, intended primarily for the use of women college students, not only has the usual hygiene text book material on personal hygiene, but has put emphasis on other matters relating to personal and family health not ordinarily found in such a book.

Recognizing the probability that the majority of these young women should and probably will, become mothers and responsible for the health and welfare of young children, it branches out, in its Unit II, into a discussion of infection and immunity, and of not only the ordinary infectious diseases of childhood, but of venereal disease, and of mental deficiency and mental derangement.

Unit III is devoted to the description of methods for care of illness in the home. While it makes no pretense of converting the wife and mother into a trained nurse, it does give definite instruction in procedures that is of great

value, even including a chapter on entertainment and occupation of convalescents and chronic invalids. The chapter on drugs and medicines, while mentioning briefly the action of numerous drugs, does not fall into the error of giving dosages or other specific information that would be likely to tempt the reader into prescribing or otherwise getting into depths that only the trained nurse or physician should attempt.

The last unit is devoted to Safety First and What to Do in Emergencies.

Here is a text with a new aim. The material is interestingly presented. Most of the procedures are simple and easily carried out in the home. As a whole, this is a much more practical and useful book than those ordinarily written for college students.

CHARLES H. KEENE, M. D.

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The Traffic in Health.—*By Charles Solomon, New York. Navarre Publishing Company,* 1937, $2.75.

Here is a book that with two other recent publications* might well be found in the library of every high school in the State. Unless children in school learn something about the nature of secret remedies and the dangers of self-medication while they are at school, they are unlikely to learn it later. And surely this knowledge is as valuable to them as, say, algebra in the conduct of their lives. Health officers who have used Doctor Cramp's volumes to answer questions regarding the nature and properties of various secret remedies will find Doctor Solomon's book a useful companion with information on some additional remedies and in some cases new information on remedies already listed by Doctor Cramp.

Physicians will appreciate Doctor Solomon's full bibliography and excellent index. Though they may not agree with every detail of his therapeutics they will be grateful for his positive teaching on simple treatments and find it an effective background against which to expose the somewhat blatant claims of certain advertisements. (As reviewed in Health News, State Department of Health, N. Y.)

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Honor to Dr. Phair.—At the annual meeting of the American Public Health Association held at New York City recently, Dr. John T. Phair, Toronto, Canada, of the Ottawa Provincial Health Department, was elected Second Vice-President of the Association. Dr. Phair is a member of the Governing Council of the American School Health Association.

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MEETINGS

The annual meeting of the American Student Health Association will be held in Chicago, Illinois, December 30-31, at the Stevens Hotel.

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* Cramp, Arthur J. Nostrums and Quackery and Pseudo Medicine, Vol. III, Chicago, A.M.A., 1936, $1.50.
Lamb, Ruth. An American Chambers of Horrors, New York: Farrar and Rhinehart, 1936, 418 pp., $2.50.